Optimizing Sparse Sampling for 2D Electronic Spectroscopy

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Supporting Information

1. 2D von Neumann basis functions

In Fig. S1 we show the 2DvN basis functions centered at time pixel (τ,t) = (14 fs, 14 fs). As discussed in Section 2 of the main text the basis is generated from a tensor product of two 1D vN basis sets. The 2DvN basis functions shown here are parameterized by their center frequencies (ω_τ,w_t). The 2DvN coefficients are calculated from the overlap of these basis

functions with the time-domain signal of Fig. 3(a). Within the 2D grid in Fig. S1 the basis functions are arranged in the same way as the coefficients in each 2D spectrum of Fig. 3(b).

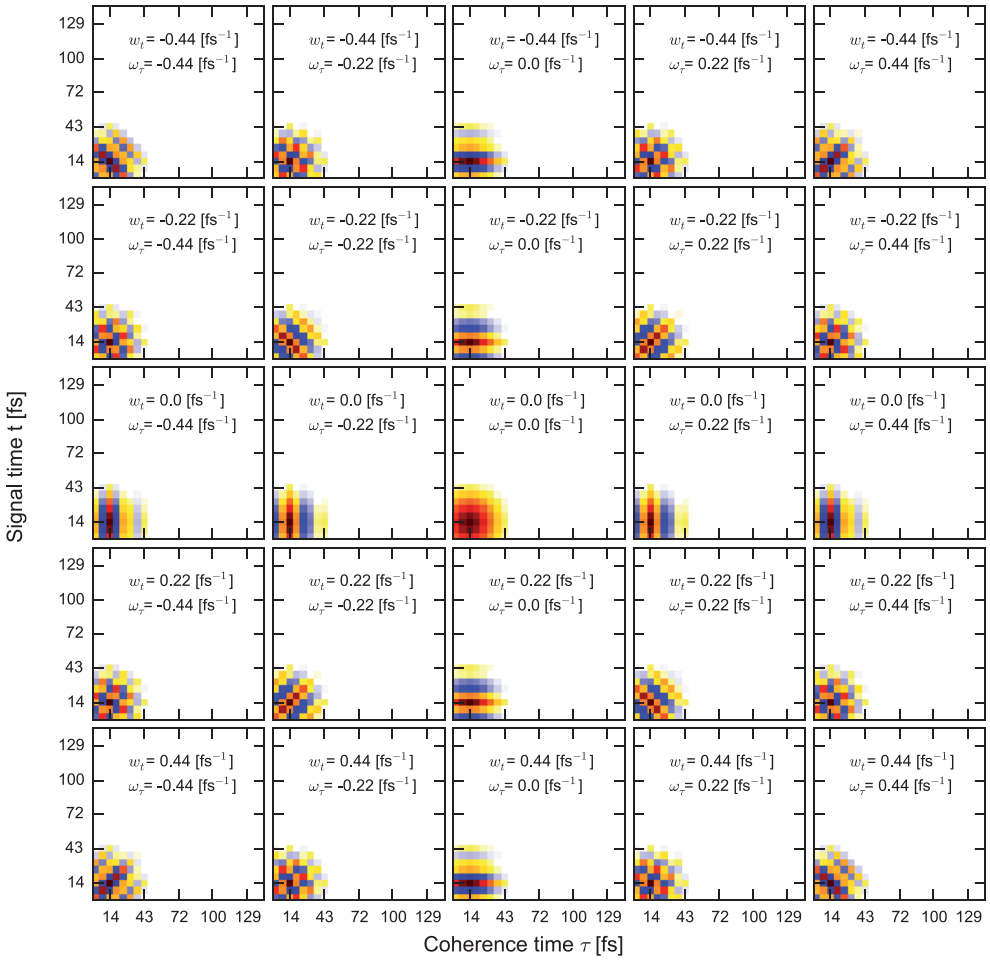

Figure S1: Real part of all 2D von Neumann basis functions centered at time pixel (τ,t) = (14 fs, 14 fs). The corresponding center frequencies for each basis function are annotated in each plot. The vN coeffcients are calculated from the overlap of these basis functions with the time-domain signal in Fig. 3(a) of the main manuscript.